



October 23 to October 29, 2011 (Week 43)

Overall Influenza Summary

- Influenza activity continues at low inter-seasonal levels
- In week 43, 3 laboratory detections of influenza were reported (1 H3 and 2 B)
- Only four regions reported sporadic influenza activity (in BC, ON & QC)
- The ILI consultation rate increased to slightly above the expected range for this week but still remains low

NOTE: The next FluWatch report (week 44) will be published on Monday, November 14, 2011.

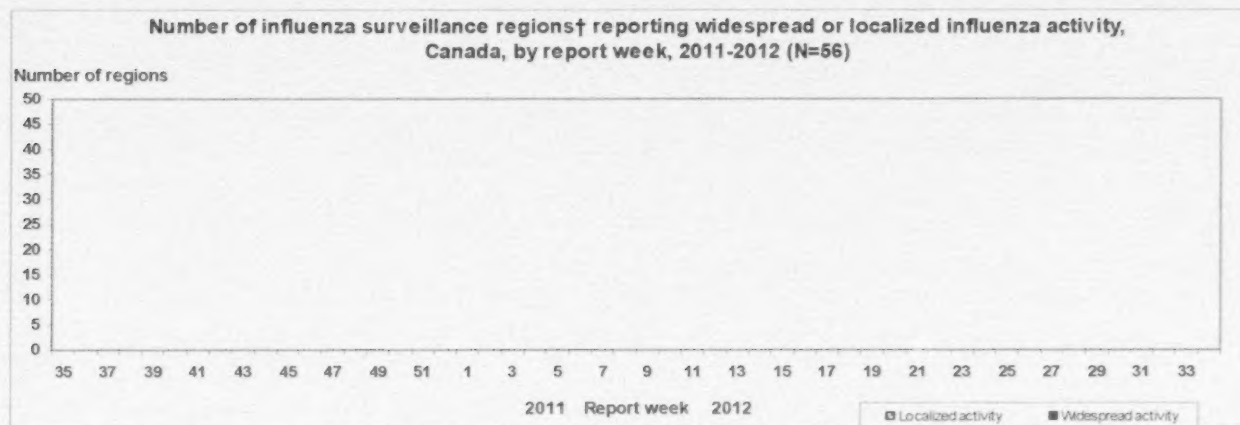
Influenza Activity and Outbreaks

In week 43, four regions within provinces reported sporadic influenza activity (in BC, ON & QC) (see Activity level Map). No influenza outbreaks have been reported since the start of the season.

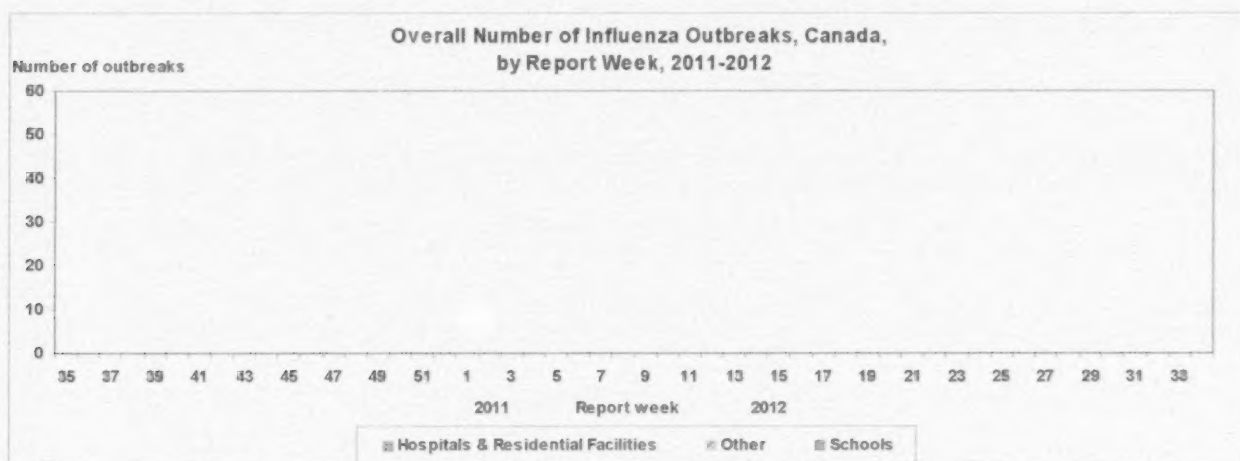
Map of overall Influenza activity level by province and territory, Canada, Week 43



Note: Influenza activity levels, as represented on this map, are assigned and reported by Provincial and Territorial Ministries of Health, based on laboratory confirmations, sentinel ILI rates (see graphs and tables) and reported outbreaks. Please refer to detailed definitions on the last page. For areas where no data is reported, late reports from these provinces and territories will appear on the FluWatch website.



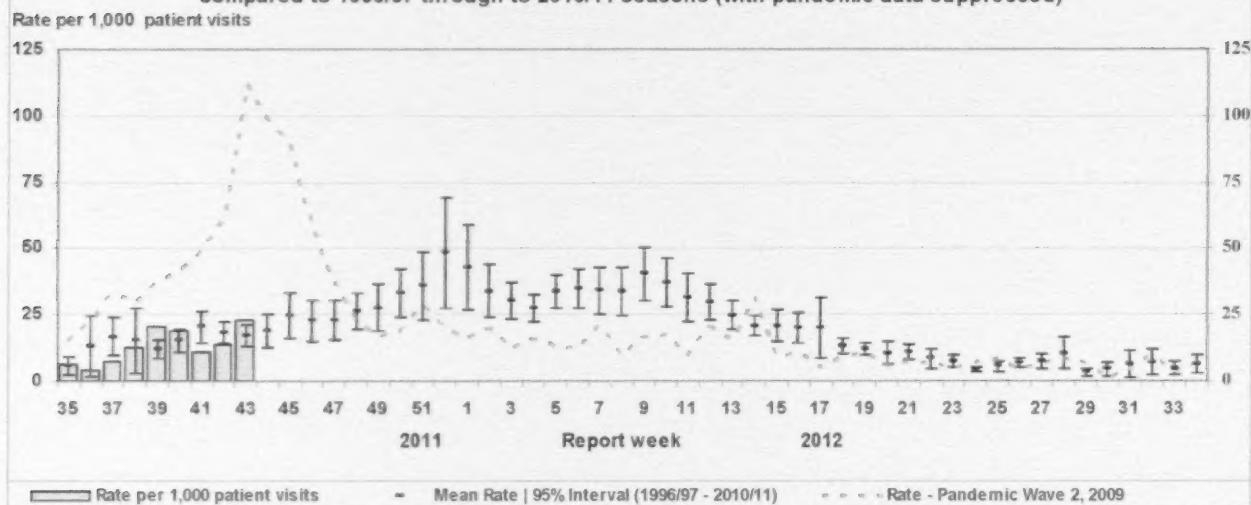
† sub-regions within the province or territory as defined by the provincial/territorial epidemiologist. Graph may change as late returns come in.



ILI consultation rate

The national ILI consultation rate increased to 22.7 consultations per 1,000 patient visits in week 43 which is slightly above expected levels for this time of year (see ILI graph). Note that the proportion of tests positive for rhinoviruses is much higher compared to the percent positive for other respiratory viruses (including influenza) over the past several weeks. The highest consultation rate this week was observed among children under 5 (49.8 / 1,000 visits) followed by those 5 to 19 years of age (36.4/1,000 visits).

**Influenza-like illness (ILI) consultation rates, Canada, by report week, 2011-2012
compared to 1996/97 through to 2010/11 seasons (with pandemic data suppressed)**



Note: No data available for mean rate in previous years for weeks 19 to 39 (1996-1997 through 2002-2003 seasons). Delays in the reporting of data may cause data to change retrospectively.

Laboratory Surveillance Summary

In week 43, 1,886 influenza tests were conducted of which 3 (0.2%) were positive for influenza. Of the positive detections, there was one A(H3N2) virus (from BC) and two B viruses (from BC & QC). The proportion of tests positive for influenza has remained below 0.2% since the beginning of September 2011.

In week 43, the proportion of tests positive for parainfluenza (5.9%) and rhinoviruses (20.0%) declined slightly but remains similar to previous weeks. The proportion of positive tests for the other respiratory viruses remained low (RSV-1.8%; adenovirus-3.0%; hMPV-1.4%; coronavirus-0.4%) (see Respiratory Viruses graph). For more details of weekly respiratory virus detections in Canada, see <http://www.phac-aspc.gc.ca/bid-bmi/dsd-dsm/rvdi-divr/index-eng.php>.

Weekly & Cumulative numbers of positive influenza specimens by Provincial Laboratories, Canada, 2011-2012

| Reporting provinces | October 23 to October 29, 2011) | | | | | | Cumulative (August 28, 2011 to October 29, 2011) | | | | | |
|---------------------|---------------------------------|----------|----------|-----------|----------|----------|--|----------|-----------|-----------|-----------|----------|
| | Influenza A | | | | | B | Influenza A | | | | | B |
| | A Total | A(H1) | A(H3) | Pand H1N1 | A (UnS)* | Total | A Total | A(H1) | A(H3) | Pand H1N1 | A (UnS)* | Total |
| BC | 1 | 0 | 1 | 0 | 0 | 1 | 10 | 0 | 10 | 0 | 0 | 2 |
| AB | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 1 | 1 | 1 |
| SK | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| MB | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| ON | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 |
| QC | 0 | 0 | 0 | 0 | 0 | 1 | 11 | 0 | 0 | 1 | 10 | 5 |
| NB | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NS | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| PE | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| NL | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Canada | 1 | 0 | 1 | 0 | 0 | 2 | 24 | 0 | 11 | 2 | 11 | 8 |

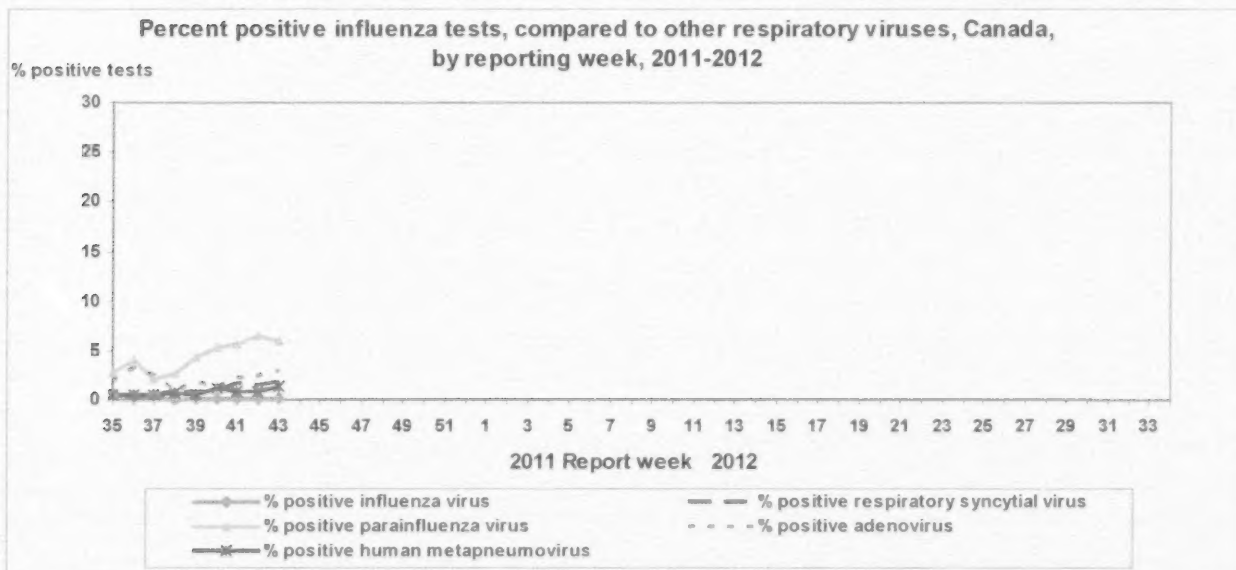
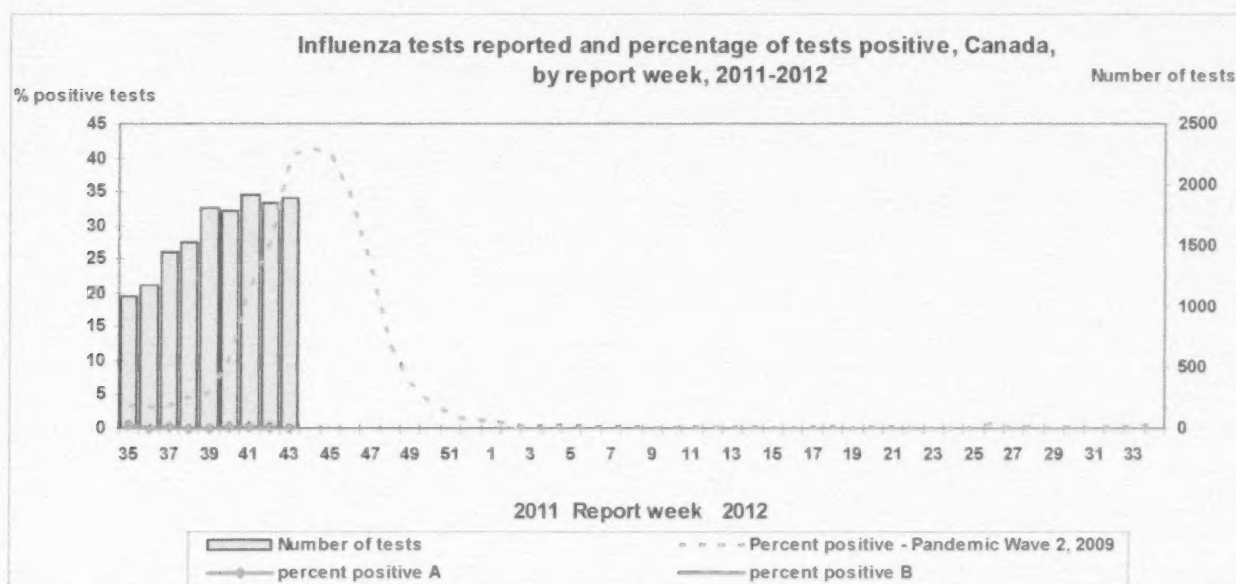
*Unsubtyped: The specimen was typed as influenza A, but no test for subtyping was performed. Specimens from NT, YT, and NU are sent to reference laboratories in other provinces. Note: Cumulative data includes updates to previous weeks; due to reporting delays, the sum of weekly report totals do not add up to cumulative totals.

**Weekly & Cumulative numbers of positive influenza specimens by age groups
reported through case-based laboratory reporting, Canada, 2011-2012***

| Age groups | Weekly (Oct 23 to Oct 29, 2011) | | | | | Cumulative (Aug. 28, 2011 to Oct.29, 2011) | | | | |
|--------------|---------------------------------|---------------|----------|-------------|----------|--|---------------|----------|-------------|----------|
| | Influenza A | | | | B | Influenza A | | | | B |
| | A Total | Pandemic H1N1 | A/H3N2 | A unsubtype | Total | A Total | Pandemic H1N1 | A/H3N2 | A unsubtype | Total |
| <5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 5-19 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 20-44 | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 2 | 0 |
| 45-64 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| 65+ | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Unknown | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | 0 | 0 | 0 | 0 | 0 | 3 | 1 | 0 | 2 | 0 |

*Please note that this table reflects the number of specimens for which demographic information was reported. These represent a subset of all positive influenza cases reported. Delays in the reporting of data may cause data to change retrospectively.

Detailed information on age and subtype were received on three cases this season to date. All three cases were between the ages of 20-44 years. One case was due to A(H1N1)pdm09 and the other two were unsubtype influenza A.



Antigenic Characterization

Since the start of the season, the National Microbiology Laboratory (NML) has antigenically characterized three influenza viruses (one A/H3N2 and two B). The A/H3N2 virus (from BC) was antigenically related to A/Perth/16/2009, which is the influenza A/H3N2 component recommended for the 2011-12 Northern Hemisphere influenza vaccine. One of the influenza B viruses characterized was antigenically related to the vaccine strain B/Brisbane/60/2008 (Victoria lineage) (from AB). The other influenza B virus (from BC) was antigenically related to the reference virus B/Wisconsin/01/2010-like, which belongs to the Yamagata lineage.

The WHO has released the recommended influenza virus vaccine composition for the 2012 Southern hemisphere season and includes the following: an A/California/7/2009 (H1N1)pdm09-like virus, an A/Perth/16/2009 (H3N2)-like virus, and a B/Brisbane/60/2008-like virus.
(http://www.who.int/influenza/vaccines/virus/recommendations/2011_09_recommendation.pdf)

Antiviral Resistance

Since the beginning of the season, NML has tested three influenza viruses (one A/H3N2 and two B) for resistance to oseltamivir (by phenotypic assay and/or sequencing) and for resistance to zanamivir (by phenotypic assay) and it was found that all three viruses were susceptible to oseltamivir and zanamivir. The A/H3N2 virus tested for amantadine resistance was found to be resistant.

Severe Illness Surveillance

Since the beginning of the season, no laboratory-confirmed paediatric (<16 years of age) influenza hospitalizations have been reported through the Immunization Monitoring Program Active (IMPACT) network.

International influenza update

Influenza activity in the temperate regions of the northern hemisphere remains low or undetectable. Low level influenza activity is reported in the tropical zone in a few countries in the Americas, central Africa, and Southern and Southeast Asia. Transmission in South Africa and South America remains low. Influenza activity continued to decrease in Australia and New Zealand, with the season appearing largely over.

http://www.who.int/influenza/surveillance_monitoring/updates/latest_update_GIP_surveillance/en/index.html

The WHO released a report that provides a brief update on global incidence of resistance in currently circulating human influenza viruses since the last published report on oseltamivir resistance in influenza A(H1N1)pdm09 viruses in February 2010. It also highlights the need to monitor and report resistance during the post-pandemic period. The full report can be accessed at: <http://www.who.int/wer/2011/wer8645.pdf>

United States: In week 42, the CDC reported that 0.8% (12/1,479) of influenza tests were positive. Since October 1, 2011, the CDC characterized four influenza viruses: all four were A/Perth/16/2009-like. National and regional proportions of visits due to ILI were below baseline levels. Geographic spread of influenza was sporadic at most and reported in 18 states. <http://www.cdc.gov/flu/weekly/index.htm>

Europe: In week 43, levels of influenza activity in Europe remained low. All countries reported low intensity of influenza activity and low impact on their health care services. All sentinel samples collected in the WHO European Region were negative for influenza; however, there have been sporadic detections of influenza A(H3N2), A(H1N1)pdm09 and influenza B reported in recent weeks. http://euroflu.org/cgi-files/bulletin_v2.cgi

FluWatch reports include data and information from the following sources: laboratory reports of positive influenza tests in Canada (National Microbiology Laboratory), sentinel physician reporting of influenza-like illness (ILI), provincial/territorial assessment of influenza activity based on various indicators, including laboratory surveillance, ILI reporting, and outbreaks, influenza-associated paediatric and adult hospitalizations, antiviral sales in Canada, and WHO and other international reports of influenza activity.

Abbreviations: Newfoundland/Labrador (NL), Prince Edward Island (PE), New Brunswick (NB), Nova Scotia (NS), Quebec (QC), Ontario (ON), Manitoba (MB), Saskatchewan (SK), Alberta (AB), British Columbia (BC), Yukon (YT), Northwest Territories (NT), Nunavut (NU).

ILI definition for the 2011-2012 season

ILI in the general population: Acute onset of respiratory illness with fever and cough and with one or more of the following - sore throat, arthralgia, myalgia, or prostration which is likely due to influenza. In children under 5, gastrointestinal symptoms may also be present. In patients under 5 or 65 and older, fever may not be prominent.

Definitions of ILI/Influenza outbreaks for the 2011-2012 season

Schools: Greater than 10% absenteeism (or absenteeism that is higher (e.g. >5-10%) than expected level as determined by school or public health authority) which is likely due to ILI. Note: it is recommended that ILI school outbreaks be laboratory confirmed at the beginning of influenza season as it may be the first indication of community transmission in an area.

Hospitals and residential institutions: two or more cases of ILI within a seven-day period, including at least one laboratory confirmed case. Institutional outbreaks should be reported within 24 hours of identification. Residential institutions include but not limited to long-term care facilities (LTCF) and prisons.

Other settings: two or more cases of ILI within a seven-day period, including at least one laboratory confirmed case, i.e. workplace, closed communities.

Influenza Activity Levels Definition for the 2011-2012 season

Influenza Regional Activity levels are defined as:

1 = No activity: no laboratory-confirmed influenza detections in the reporting week, however, sporadically occurring ILI may be reported

2 = Sporadic: sporadically occurring ILI and lab confirmed influenza detection(s) with **no outbreaks** detected within the influenza surveillance region†

3 = Localized: (1) evidence of increased ILI* and

(2) lab confirmed influenza detection(s) together with

(3) **outbreaks** in schools, hospitals, residential institutions and/or other types of facilities occurring in **less than 50% of the influenza surveillance region†**

4 = Widespread: (1) evidence of increased ILI* and

(2) lab confirmed influenza detection(s) together with

(3) **outbreaks** in schools, hospitals, residential institutions and/or other types of facilities occurring in **greater than or equal to 50% of the influenza surveillance region†**

Note: ILI data may be reported through sentinel physicians, emergency room visits or health line telephone calls.

* More than just sporadic as determined by the provincial/territorial epidemiologist.

† Influenza surveillance regions within the province or territory as defined by the provincial/territorial epidemiologist.

We would like to thank all the Fluwatch surveillance partners who are participating in this year's influenza surveillance program.

This report is available on the Public Health Agency website at the following address: <http://www.phac-aspc.gc.ca/fluwatch/index.html>. Ce rapport est disponible dans les deux langues officielles. Pour en recevoir un exemplaire dans l'autre langue chaque semaine, veuillez communiquer avec Estelle Arseneault, Division de l'immunisation et des infections respiratoires au (613) 998-8862.